

Path of Oxygen- Respiratory System

- 1) **Free oxygen** from the air is inhaled
- 2) Oxygen enters the body from the mouth and is sucked in by a *vacuum effect* caused by the chest cavity expanding (causes the lungs to expand drawing the air in) {diaphragmatic breathing}
- 3) Air passes the epiglottis down the **Trachea**, to the **Bronchus** to the small **Bronchioles**
- 4) Along the way, the lining of the walls are covered by **cilia** (tiny hairs to filter the pollutants in the air)
- 5) Air continues to the tiny **Alveolus** bulbs surrounded by capillaries

6) The membrane lining of the alveolus is like a loading dock. Oxygen cannot move through the fluid in the blood stream and must be carried. It is at the lining here where oxygen is loaded onto **hemoglobin** molecules of the red blood cells.

7) As oxygen is loaded on, carbon dioxide is traded off and released to the lung tissues and eventually exhaled.

8) The oxygen is carried through the bloodstream to the body cells where it *diffuses* inside the cell.

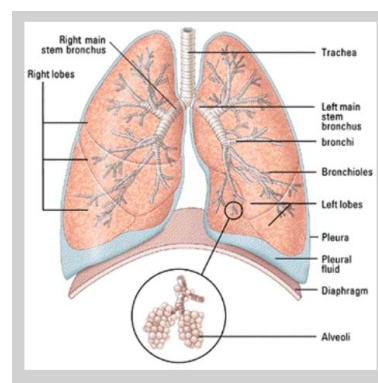
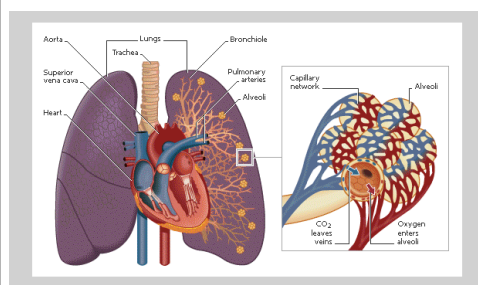
9) Once inside the cell the oxygen becomes the "key" to unlock the cells' energy (ATP). This is *cell metabolism*.

10) Afterwards the metabolic waste product - carbon dioxide from the cell is loaded on the empty red blood cells in the bloodstream and sent back to the lungs where it is exhaled.

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- 11) Here the whole process repeats itself.



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The Respiratory System

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Test Outline

Tuesday November 14th

Cardiovascular System

- path of blood through the system
- measures of heart health at rest vs exercise
- effects of cardiovascular training

TTHR calc

Respiratory System

Path of O2 through anatomy

. Measures of VO2

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